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Bureau of Epidemiology & Public Health Informatics

The Prevention of Healthcare-Associated Infections in Kansas *by Robert Geist, MPH, CIC, FAPIC*

Since 2009, the Kansas Department of Health and Environment’s (KDHE) Healthcare-Associated Infections and Antimicrobial Resistance Program has been working with healthcare providers across the spectrum of care to prevent infections that may be acquired during medical care. Included in this effort are key partner organizations in infection prevention and health care quality across the state and nation. Facilities in Kansas have been able to make great strides in the reduction of some infections in Kansas, increase vigilance and response capacities to multi-drug resistant infection events, and increase the capacity of in-house infection prevention program proficiencies.

Despite these excellent results, many preventable infections from healthcare exposures still occur in Kansas and across the nation and world. Healthcare continues to strive to become a highly-reliable industry through use of new evidence-based practices, quality improvement activities and infection prevention program proficiencies, and continued practice and updates to skills.

The following are standardized measures used to track progress in reducing healthcare-associated infections (HAI), and results since surveillance began in Kansas:

Central lines are invasive medical devices, tubing, that end in a great vein near the heart. Use of these devices puts patients at increased risk for bloodstream infections. Between 2009 and 2016 there was a 23% reduction in these infections in KS. More recently we have seen minimal additional reductions, but KS remains about 20% below the national average. There have been far fewer morbidity and mortality events through limiting use of these devices to times when they are necessary and performing better safety practices around inserting and maintaining these lines.

Indwelling urinary catheters are invasive medical devices, tubing, that end in the bladder. Use of these devices also puts patients at increased risk for urinary tract infections. Between 2009 and 2016 there was a 43% reduction in these infections in KS. More recently we have seen an additional 12% reduction and remain at or slightly below the national average. Similarly, patient safety has improved through limiting use of these devices and better safety practices.

Surgical site infections (SSI), are infections that occur after a surgical procedure. Between 2011 and 2016, SSIs from colon surgeries saw a 52% increase in KS. More recently we have seen the trend reverse with a 31% reduction in KS. Despite having started out on par with the national average, prior increases have left us above the national average by about 30%. With adoption of new evidence-based guidelines on the best practices around this procedure, surgical departments should continue to see improvements in patient outcomes.



Between 2011 and 2016, SSIs from abdominal hysterectomies in KS saw a 43% reduction. More recently we have seen an additional 28% reduction in KS and remain slightly below the national average. This procedure has seen significant improvement nationwide. Adoption of the newest evidence-based guidelines should continue to spur more positive patient outcomes.

Methicillin-resistant *Staphylococcus aureus* (MRSA) infections in the bloodstream can cause high morbidity and mortality. Between 2013 and 2016 there was a 5% increase in these infections in KS. More recently we have seen a 17% reduction. Having started out 44% below the national average, we have lost some of the lead. These events currently occur in KS only slightly below the national average. Reductions in these infections represent improvements in frontline healthcare worker infection prevention practices around procedures that breach skin barrier (e.g. central line insertion and maintenance, injection safety, surgeries, etc.).

Clostridoides (previously *Clostridium*) *difficile* infections (CDI) can cause serious gastrointestinal illnesses, particularly when they produce a toxin that results in extensive inflammation. Infections from this organism are frequently associated with the use of certain antibiotics. Between 2013 and 2016 there was a 7% reduction in these infections in KS. More recently we have seen an additional 6% reduction and infections occur below the national average by about 9%. Reductions in these infections represent improvements in antibiotic prescribing, patient isolation precautions, healthcare worker hand hygiene, and environmental cleaning.

During the 2012-2013 influenza season 83% of healthcare workers in acute care hospitals were vaccinated for influenza. During the 2017-2018 influenza season 94% were vaccinated. This represents an 11% increase in healthcare workers that are protecting themselves and patients from influenza.

Outpatient settings (e.g., local health department clinics) should also be proficient in appropriate infection prevention practices for their settings. An excellent resource is the Center for Disease Control and Prevention's [Guide to Infection Prevention for Outpatient Settings: Minimum Expectations for Safe Care](#).

February Public Health Observances

**National Women and Girls HIV/AIDS
Awareness Day — March 10**



<https://www.womenshealth.gov/nwghaad>

**National Native American HIV/AIDS
Awareness Day — March 20**



<http://www.nnhaad.org/index.html>

**World Tuberculosis Day
March 24**



http://www.stoptb.org/events/world_tb_day/

National Nutrition Month



<https://www.eatright.org/>



UPDATE EPITRAX DATA QUALITY INDICATORS

by Sheri Tubach, MPH MS

The Bureau of Epidemiology and Public Health Informatics has implemented a set of monthly quality indicators and performance measures to encourage data quality improvement in EpiTrax and timeliness of investigations. I am now calculating the performance measures of interview attempt and interview completion using either the report date to the LHD or the date the event was created in EpiTrax. The disease specific targets for interview initiation and interview

January 2019		State's Total Number of Cases* = 219	
EpiTrax Indicators			
EpiTrax Field	Number of Cases with Field Completed		Percent Completed
Address City	217		99
Address County	219		100
Address Zip	216		99
Date of Birth	219		100
Died	192		88
Ethnicity†	191		87
Hospitalized	203		93
Occupation	142		65
Onset Date	178		81
Pregnancy††	94		85
Race †	201		92
Sex †	219		100
Persons Interviewed	159		73
Persons Lost to Follow-Up	12		5
Persons Refused Interview	1		0
Persons Not Interviewed	47		21
	Number of Cases		Percent of Cases
Interview was attempted within the target for each disease ^{^52}	111		59
Case investigations were completed within the target for each disease [^]	95		51

*Calculations do not include Hepatitis B - chronic, Hepatitis C – Chronic or acute, or Animal Rabies

** Out-of-state, discarded, deleted or those deemed to be not a case are not included in this calculation.

† Unknown considered incomplete.

†† Pregnancy completeness calculated on females only

[^] See the table below for interview attempt and completed case interview targets

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Disease Targets

Diseases	Disease Control (Days)*	Completed Case Investigation (Days)**
Anthrax; Botulism; Brucellosis; Cholera; Diphtheria; Hantavirus Pulmonary Syndrome; Hepatitis A; Influenza deaths in children <18 years of age; Measles; Meningitis, bacterial; Meningococcemia; Mumps; Plague; Poliomyelitis; Q Fever; Rabies, human; Rubella; Severe acute respiratory syndrome (SARS); Smallpox; Tetanus; Tularemia; Viral hemorrhagic fever; Yellow fever	1	3
Varicella	1	5
Pertussis	1	14
Campylobacter infections; Cryptosporidiosis; Cyclospora infection; Giardiasis; Hemolytic uremic syndrome, post diarrheal; Hepatitis B, acute; Legionellosis; Listeriosis; Salmonellosis, including typhoid fever; Shigellosis; Shiga-toxin Escherichia coli (STEC); Trichinosis; Vibriosis (not cholera)	3	5
Arboviral disease (including West Nile virus, Chikungunya, and Dengue); Haemophilus influenzae, invasive disease; Streptococcus pneumoniae, invasive	3	7
Ehrlichiosis / Anaplasmosis; Lyme disease; Malaria; Spotted Fever Rickettsiosis	3	14
Hepatitis B, chronic; Hepatitis C, chronic; Hepatitis C, acute; Leprosy (Hansen disease); Psittacosis; Streptococcal invasive, drug-resistant disease from Group A Streptococcus; Toxic shock syndrome, streptococcal and staphylococcal; Transmissible spongiform encephalopathy (TSE) or prion disease	N/A	N/A

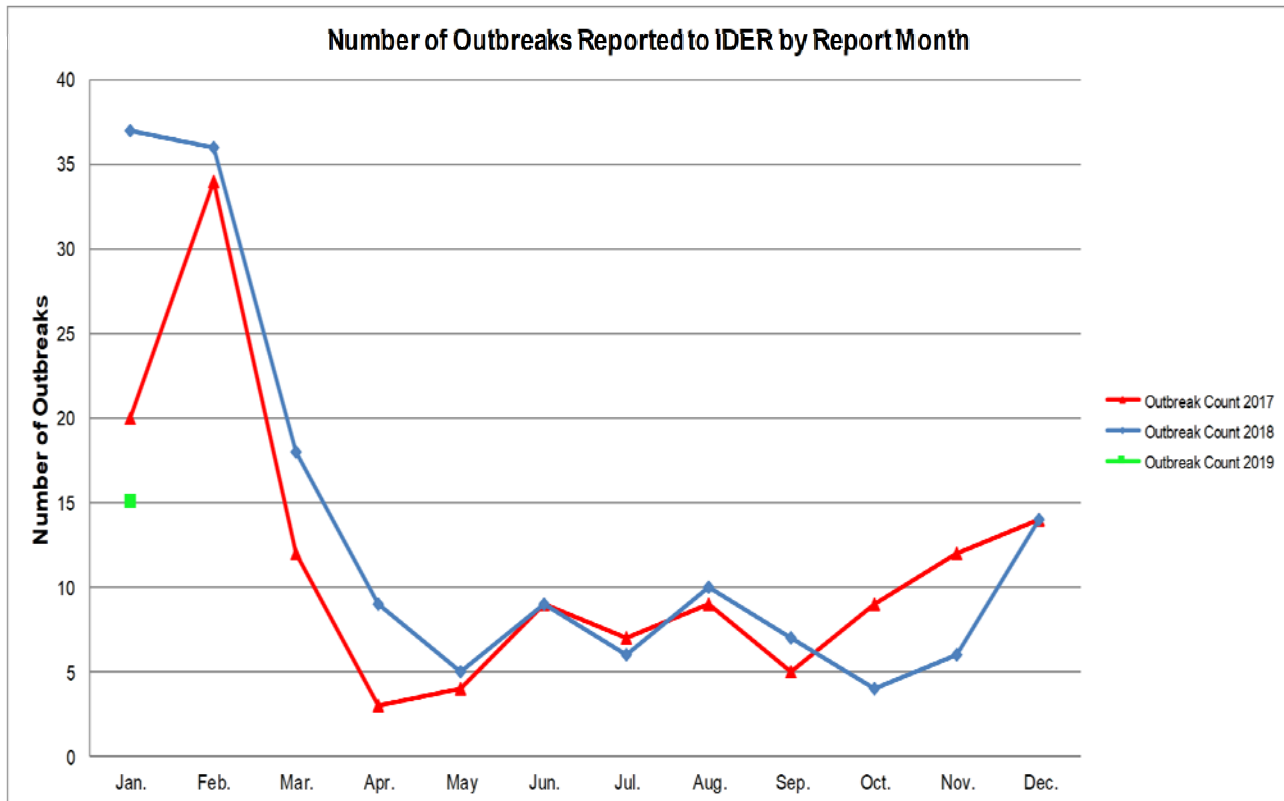
Monthly Disease Counts

Please refer to the Cumulative Case Reports of Diseases ([http://www.kdheks.gov/epi case reports by county.htm](http://www.kdheks.gov/epi%20case%20reports%20by%20county.htm)) for current case count information.

***Disease Control:** Calculated by using EpiTrax Fields: (Date LHD Investigation Started) OR (Call Attempt 1 date for Salmonellosis and STEC) - (Date Reported to Public Health) OR (Date Reported to KDHE)

****Completed Case Investigation:** Calculated by using EpiTrax fields: (Date LHD Investigation Completed) - (Date Reported to Public Health) OR (Date Reported to KDHE)

Outbreaks Report



Date Reported	Facility Type	Transmission/Exposure	Disease/Condition	County
1/2/2019	Restaurant	Indeterminate/Unknown	Unknown Etiology	Wyandotte
1/8/2019	Adult care facility	Person-to-person	Influenza	Sedgwick
1/9/2019	Adult care facility	Person-to-person	Norovirus	Saline
1/9/2019	Adult care facility	Person-to-person	Norovirus	Sedgwick
1/11/2019	School or college	Person-to-person	Pertussis	Sedgwick
1/16/2019	Adult care facility	Person-to-person	Unknown Etiology	Johnson
1/17/2019	School or college	Person-to-person	Influenza	Allen
1/17/2019	School or college	Person-to-person	Influenza	Johnson
1/24/2019	School or college	Person-to-person	Influenza	Leavenworth
1/24/2019	School or college	Person-to-person	Unknown Etiology	Seward
1/24/2019	Adult care facility	Person-to-person	Unknown Etiology	Seward
1/28/2019	Restaurant	Food	Norovirus	Pratt
1/29/2019	School or college	Person-to-person	Influenza	Wyandotte
1/30/2019	Child care center	Person-to-person	Influenza	Saline
1/30/2019	Restaurant	Food	Norovirus	Shawnee



Kansas Infectious Disease Symposium

May 1, 2019

Johnson County Arts & Heritage Center Overland Park, Kansas

Join leaders in public health, emergency response, preparedness and healthcare to learn how highly infectious disease outbreaks are contained and managed in Kansas and the Midwest. Network with local, state and federal partners to share information on how to plan for disease outbreaks and maintain readiness in your jurisdiction.

WHO SHOULD ATTEND

Public/Environmental Health, Healthcare Providers and Leaders, School Nurses, Emergency Management, First Responders, Law Enforcement, Healthcare Coalitions, Elected Officials

PRESENTATION TOPICS

- Infectious Disease and Public Health
- Pandemic Flu
- Tuberculosis
- Rabies and Tick-borne Disease Investigations
- Hepatitis C/Syphilis
- Syndromic Surveillance Training using Essence

TENTATIVE SCHEDULE

Please note that the details of this schedule may change. This draft is provided for planning purposes only.

Conference Registration: 7 a.m. to 7:45 a.m.

Sessions: 8 a.m. to 12 p.m.

Lunch/Networking: 12 p.m. to 1 p.m.

Sessions: 1 p.m. to 5:30 p.m.

Lunch and beverages provided.

REGISTRATION & FEES

Registration information will be available in spring 2019. Continuing education credits will be available for purchase. Attendees are responsible for their own travel and lodging expenses.

Presented by:

